

Appl. No. : 09/830820
Filed : April 27, 2001

COMMENTS

Claims 1-40 remain pending in the present application, Claims 10, 21, and 31 having been amended, and Claims 15-20, 27-30, and 37-40 having been withdrawn from consideration.

In response to the Office Action mailed March 4, 2003, Applicants respectfully request the Examiner to reconsider the above-captioned application in view of the foregoing amendments and the following comments.

Restriction Requirement

The Office Action indicates that the previous traversal of the outstanding Restriction Requirement was not persuasive because "the statutory requirement is not based on examiner burden." Applicants recognize that the "serious burden" requirement is not found in a United States statute. Rather, this requirement is set forth in the MPEP.

It is well established that the Commissioner has the authority to promulgate rules for the operation of the Patent Office, in accordance with the United States Code and Code of Federal Regulations. Thus, the rules set forth in the MPEP must be followed, even where the specific rules set forth in the MPEP do not appear in the United States Code or the Code of Federal Regulations.

The Manual of Patent Examining and Procedure, § 803 requires that:

If the search and examination of an entire application can be made **without serious burden**, the examiner **must examine** it on the merits, **even though** it includes claims to **independent or distinct inventions**.

Emphasis added.

Thus, Applicants continue to traverse the outstanding restriction requirement.

Amendments To Specification Address Noted Informalities

The foregoing amendments to the specification correct the informalities noted by the Examiner. The amendments do not add new matter and overcome the Examiner's objection. Entry of the amendments is respectfully requested.

Declaration

Applicants have filed herewith a Supplemental Declaration including all priority data, as requested by the Examiner.

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All Pending Claims Now Fully Comply With 35 U.S.C. § 112

Claims 1-14, 21-26, and 31-36 stand rejected under 35 U.S.C. § 112, second paragraph, the Examiner maintaining that the language therein is indefinite as filed. In response, Applicants have amended these claims solely to make the claims more easily readable and not too narrow or affect the scope of the claims.

In response to the rejection of Claim 10 based on the lack of antecedent basis for “the fuel cell unit sensor,” Applicants have amended Claim 10 to recite “a fuel cell unit sensor.” Additionally, with respect to the objections to Claim 10 for containing informalities, Applicants have deleted the word “two” in line 3 of Claim 10 and have added a comma after the word data in line 13 of Claim 10.

With respect to the rejection of Claims 21 and 31 based on the lack of antecedent basis for “first and second power supply devices,” Applicants have amended Claims 21 and 31 to consistently use the phrase “first and second power supply sources.” Additionally, Applicants have deleted the word “said” from these claims and replaced this term with the word “the.” Additionally, with respect to the objections to Claims 21 and 31 for containing informalities, Applicants have deleted the word “a” from line 2 of these claims. All pending claims now fully comply with the requirements of 35 U.S.C. § 112.

Claims 10-14 Are In Condition For Allowance

The Examiner indicated that Claims 10-14 would be allowable if amended to address the Section 112, second paragraph rejection and if rewritten into independent form. The amendment to Claim 10 overcomes the rejection. Thus, Claims 10-14 are now in condition for allowance.

The Applied Combination of Early et al./Moroto et al. Does Not Make Obvious The Hybrid Powered Vehicle Recited By Claims 21, 22, 31, and 32

Claims 21-22, 31, and 32 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 4,961,151 issued to Early et al., in view of U.S. Patent No. 5,892,346 issued to Moroto et al. Applicants respectfully traverse this rejection. However, in order to expedite prosecution of the present application, Claims 21 and 32 have been amended. Applicants expressly reserve the right to further prosecute the original versions of Claims 21 and 31 through continuation practice.

Early et al. teaches a power system for a vehicle including a propulsion device having a battery and a fuel cell. Additionally, Early et al. teaches a method for controlling the

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connection between the fuel cell and the battery so as to control the recharging of the battery from the fuel cell so as to not damage the battery. Early et al. fails to teach any systems for determining a travel range of the vehicle.

Moroto et al. teaches a vehicle having either a single electric battery power source or having an additional internal combustion engine to work in conjunction with the electrical power source. Moroto et al. teaches a method for maximizing the use of a battery so as to minimize the use of the intern combustion engine. For example, as shown in Figures 8a and 8b, the method taught by Moroto et al. considers various scenarios of using the battery to drive the propulsion device so as to *maximize the use of the battery* by analyzing the distance and the predicted amount of charge left in the battery after arrival at various destinations. The method of Moroto et al. relies on the use of *schedules and the locations* of known charging stations for recharging the battery. However, Moroto et al. fails to teach a system that can determine an amount of power available from two different power supply sources and to calculate an approximate travel range of the vehicle based on the power available from the two different power sources. Further, as admitted by the Examiner at page 5 of the outstanding Office Action, “Moroto et al. fails to teach that the capacity of a fuel cell is measured.”

It is the Examiner’s position that it would have been obvious to one of ordinary skill in the art to monitor fuel consumption of the fuel cell in addition to power consumption of the battery in order to provide an overall value reflecting capacity of both the batter and the fuel cell and to provide a determination of vehicle range based on these measurements.

Applicants submit that it is well established that in order to sustain a finding of obviousness, the prior art references “must teach or suggest all the claim limitations.” See, M.P.E.P. § 2143. As noted above in detail, the Moroto et al. reference only teaches determining a travel range associated with a battery of a hybrid vehicle system. Thus, either alone in combination, the cited prior art references fail to teach a control system that can determine a vehicle range based on the power capacity of two different power sources

In contrast, Claim 21 now recites, among other features, “first and second power supply sources being different from each other, each power supply source being configured to supply sufficient power to drive the propulsion device, and a controller configured to determine an amount of power available from each of the first and second different power supply sources, the controller being configured to calculate an approximate travel range of

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the vehicle based on the amount of power available from the first and second different power supply sources.” Similarly, Claim 31 now recites “first and second power supply sources being different from each other, each power supply source being configured to supply sufficient power to drive the propulsion device, and a controller configured to determine an amount of power available from each of the first and second different power supply sources, the controller including means for calculating an approximate travel range of the vehicle based on the amount of power available from the first and second different power supply sources.”

This distinction is important because, the hybrid powered vehicle of Claims 21 and 31 include a controller that can correlate data regarding two different power sources and combine this data in a way to provide an approximate travel range of the vehicle. Neither the Moroto or Early et al. references can be combined in any way to provide a system that can perform such an analysis. Thus, Applicants submit that Claims 21 and 31 clearly and nonobviously define over the prior art.

With respect to Claims 22 and 32, Applicants wish to point out that neither the Early et al. or Moroto et al. references teach a system that can determine a fuel consumption ratio of a fuel cell or a capacity consumption ratio of a battery of a vehicle. Rather, the Moroto et al. reference merely teaches using a predetermined schedule of travel to determine a method for using a battery to *maximize the use of the battery*.

In contrast, Claim 21 recites “a controller being configured to determine a fuel consumption ratio of the fuel cell and a capacity consumption ratio of the battery.” Similarly, Claim 32 recites “the means for calculating including means for determining a fuel consumption ratio of the fuel cell and a capacity consumption ratio of the battery.”

This distinction is important because, as a vehicle is operated and as the components of the vehicle age, the performance of the different power sources, such as a fuel cell and a battery, can change. Thus, by providing the controller with the ability to determine a fuel consumption ratio of the fuel cell and a capacity consumption ratio of the battery, the vehicle can provide a more accurate travel range even as the vehicle and its components age and change in efficiency or performance, or in accordance with changes and operating environment. For example, if the vehicle is loaded with more weight or otherwise experiences increased load. Where the vehicle is a motorcycle, the weight of riders is significant when compared to the total weight of the vehicle. Additionally, the aerodynamic

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drag of the total vehicle changes with the size of the rider and whether or not the rider or riders are carrying additional baggage.

Applicants therefore submit that Claims 22 and 32 provide further patentable distinctions over the Early and Moroto et al. references.

The Applied Combination of Early et al./Moroto et al./Rogers Does Not Make Obvious The Hybrid Powered Vehicle Recited In Claims 23 And 33

Claims 23 and 33 stand rejected under 35 U.S.C. § 103(a) as being obvious over Early et al., in view of Moroto et al. and U.S. Patent No. 5,528,148 issued to Rogers. Applicants respectfully traverse this rejection.

However, as noted above, Applicants submit that Claims 21, 22, 31, and 32 clearly and nonobviously define over the prior art. Thus, Claims 23 and 33 also define over the prior art, not only because they depend from Claims 21, and 31, respectively, but also on their own merit.

The Applied Combination Of Early et al./Moroto et al./Chady et al. Does Not Make Obvious The Hybrid Powered Vehicle Recited In Claims 24-26 And 34-36

Claims 24-26 and 34-36 stand rejected under 35 U.S.C. § 103(a) as being obvious over Early et al. in view of Moroto et al. and U.S. Patent No. 6,091,228 issued to Chady et al. Applicants respectfully traverse this rejection.

However, as noted above, Claims 21, 22, 31, and 32 clearly and nonobviously define over the prior art. Thus, Applicants submit that Claims 24-26 and 34-36 also define over the prior art, not only because they depend from Claim 22 or Claim 32, but also on their own merit.

Response to Drawing Objection

The drawings stand objected to for containing text in non-English characters. Thus, Applicants have submitted herewith substitute drawings 1-11 which do not include non-English text and which include the approved corrections. Rather, the substitute drawings filed herewith include English translations of the drawings which originally included non-English text.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims and specification. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

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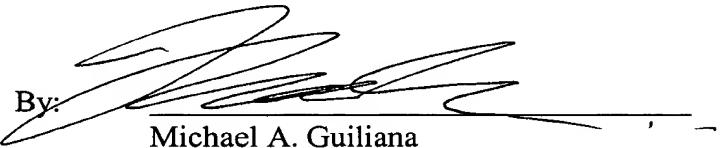
The undersigned has made a good faith effort to respond to all of the rejections in the case and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped issues remain or if any issues require clarification, the Examiner is respectfully requested to call Applicants' attorney in order to resolve such issue promptly.

Respectfully submitted,

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Dated: July 2, 2003

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